

CLAIMS

1. A stacked-type piezoelectric device comprising a plurality of piezoelectric layers and electrode layers which are stacked in alternate fashion, said stacked-type piezoelectric device comprising;

an abutment member which is brought into direct abutment with at least one end face of said piezoelectric device in a stretching direction thereof; and

a coating member having electric insulating properties which covers at least part of the abutment portion between said abutment member and said piezoelectric device so that the state is maintained in which said abutment member and said piezoelectric device are in abutment with each other.

2. A stacked-type piezoelectric device as set forth in Claim 1, wherein the abutment surfaces of said piezoelectric device and said abutment members are substantially similar to each other.

3. A stacked-type piezoelectric device as set forth in Claim 1, wherein said abutment members have electrically insulating properties.

4. A stacked-type piezoelectric device as set forth in Claim 1, wherein said coating member covers the full circumference of the abutment portion between said piezoelectric device and said abutment members.

5. A stacked-type piezoelectric device as set forth in Claim 1, wherein the coating member covers the abutment portion between said piezoelectric device and said abutment members and the entire surface of the outer circumference of said piezoelectric device.

6. A stacked-type piezoelectric device as set forth in Claim 1, wherein side electrodes are disposed on two opposed sides of said piezoelectric device and wherein said coating member covers at least said side electrodes entirely.

7. A stacked-type piezoelectric device as set

forth in Claim 1, wherein said piezoelectric device is adapted to be used for an actuator for use in driving an injector.

5        8. A method for producing a stacked-type piezoelectric device comprising a plurality of piezoelectric layers and electrode layers which are stacked in alternate fashion, said method comprising the steps of

10                bringing an abutment member into direct abutment with at least one end face of said piezoelectric device in a stretching direction thereof and clamping said piezoelectric device with a pair of fixtures from both ends of said piezoelectric device in the stretching direction thereof,

15                supplying a coating material having fluidity to at least an outer circumference of the abutment portion of said abutment member to said piezoelectric device, and

20                allowing said coating material to set to thereby form a coating member for maintaining the abutment condition of said abutment member to said piezoelectric device.

25        9. A method for producing a stacked-type piezoelectric device as set forth in Claim 8, wherein said pair of fixtures is rotated on an axis of said piezoelectric device extending in the stretching direction thereof relative to a supply point of said coating material and wherein said pair of fixtures is also translated relative to said supply point of said  
30        coating material.

35        10. A method for producing a stacked-type piezoelectric device as set forth in Claim 8, wherein said coating material is any of epoxy resin, polyimide resin, silicone resin, fluororubber and polyurethane resin.